



Australian Bureau of Statistics

6364.0 - Information Paper: Job Vacancies, Australia, Changes to Time Series Spreadsheets, May 2005

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Summary

Main Features

INTRODUCTION

This information paper provides an outline of changes to the **Job Vacancies, Australia** (cat. no. 6354.0) AusStats Time Series Spreadsheets.

CHANGE TO MICROSOFT EXCEL FORMAT

The Australian Bureau of Statistics (ABS) has introduced a new method of presenting time series data to the AusStats service. The Lotus 1-2-3 time series spreadsheets are being replaced with Microsoft Excel spreadsheets. A sample of the layout for **Job Vacancies, Australia** of the new spreadsheets in Microsoft Excel format (.xls) is attached to this Information Paper.

For the May 2005 issue of **Job Vacancies, Australia** (cat. no. 6354.0), the AusStats Time Series Spreadsheets are provided in the usual Lotus 1-2-3 format (.wks).

From the August 2005 issue of **Job Vacancies, Australia** (cat. no. 6354.0), due for release on 29 September 2005, the AusStats Time Series Spreadsheets will only be presented in Microsoft Excel format (.xls).

A concordance between the new tables (Microsoft Excel .xls format) and the current AusStats tables (Lotus 1-2-3 .wks format) is included below.

The Microsoft Excel spreadsheets offer clearer presentation, simpler data navigation and retrieval, and enhanced metadata content over the Lotus 1-2-3 spreadsheets. The new format files can be opened, read and manipulated using Excel 5.0/95 (or equivalent), however, some features will not be available unless you have Excel 97 (or a later version).

CHANGES TO SPREADSHEET CONTENT

In addition to the file format change, some of the content of the spreadsheets has changed. These changes apply to the data provided in Microsoft Excel format only:

- Table numbering has been changed to agree with the table numbering in the **Job Vacancies, Australia** publication (cat. no. 6354.0).
- Consistent with the other spreadsheets, data relating to Standard Errors has been included in the 'Job Vacancies, Industry, Australia', (Table 4) spreadsheet.

- The presentation of the data has changed. For instance, time periods are represented by rows and data items by columns.

CONCORDANCE

NEW AND CURRENT TABLES

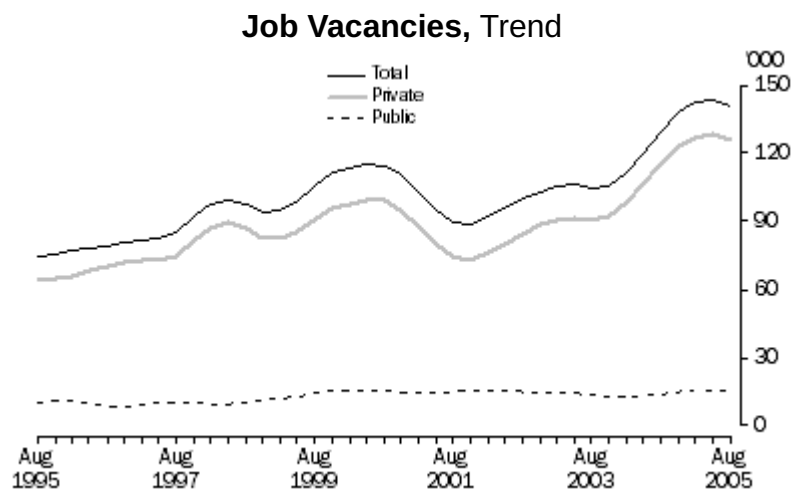
Below is a concordance between the new tables in Microsoft Excel format and the current AusStats tables in Lotus 1-2-3 format.

New Table No.	Current Table No.	Description	New Excel file identifier from August 2005	Interim Excel file identifier for sample spreadsheets	Current Lotus 1-2-3 file identifier
TABLE 1.	TABLE 1C.	Job Vacancies, States and Territories ('000)	63540_1.xls	63640_1.xls	635401c.wks
TABLE 2.	TABLE 1A.	Job Vacancies, Private Sector, States and Territories ('000)	63540_2.xls	63640_2.xls	635401a.wks
TABLE 3.	TABLE 1B.	Job Vacancies, Public Sector, States and Territories ('000)	63540_3.xls	63640_3.xls	635401b.wks
TABLE 4.	TABLE 2.	Job Vacancies, Industry, Australia ('000) - Original	63540_4.xls	63640_4.xls	635402.wks

Main Features

AUGUST KEY FIGURES

	Aug 2005 '000	May 2005 to Aug 2005 % change	Aug 2004 to Aug 2005 % change
Trend estimates			
Private sector	125.4	-2.0	8.9
Public sector	15.5	0.2	9.4
Private and public sectors	140.9	-1.8	9.0



AUGUST KEY POINTS

TREND ESTIMATES

- Total job vacancies in August 2005 were 140,900, a decrease of 1.8% from May 2005.
- The number of job vacancies in the private sector was 125,400 in August 2005, a decrease of 2.0% from May 2005.
- The number of job vacancies in the public sector was 15,500 in August 2005, an increase of 0.2% from May 2005.

NOTES

NOTES ON ESTIMATES

A review of seasonal adjustment factors for series shown in this publication has been undertaken this quarter. As a result, some previously published seasonally adjusted and trend estimates have been revised. This review usually takes place in time for inclusion in the November estimates each year, but has been brought forward by one quarter because of observed changes in seasonality in recent quarters' estimates. For further information on seasonal adjustment refer to paragraphs 22 to 30 of the Explanatory Notes.

FORTHCOMING CHANGES

Concurrent seasonal adjustment

From the February 2006 issue of this publication, the ABS will use concurrent seasonal adjustment in the Job Vacancies Survey (JVS), replacing the forward factor adjustment method currently used to produce seasonally adjusted estimates. Concurrent seasonal adjustment uses original data up to and including the current quarter to update seasonal factors each quarter, whereas the forward factors adjustment method only updates seasonal factors annually.

As a result of the quarterly updating of seasonal factors, seasonal adjusted estimates will be revised each quarter under the concurrent adjustment method, compared with annual revisions under the forward factor method. However, the degree of revision will generally be less under the concurrent adjustment method (i.e. initial seasonally adjustment estimates will be closer on average to their final values), as any change in seasonality will be picked up sooner.

SAMPLING ERROR

For information on sampling error, including standard errors for original estimates contained in this publication, see the Technical Note.

INQUIRIES

For further information about these and related statistics, contact the National Information and Referral Service on 1300 135 070 or Kerry Foley on Perth (08) 9360 5373.

TABLES

1. JOB VACANCIES, States and territories

	NSW	Vic.	Qld	SA	Original WA	Tas.	NT	ACT	Australia	Seasonally Adjusted Australia	Trend Australia
VACANCIES ('000)											
2004											
May	43.7	30.7	25.1	6.0	10.5	1.7	2.4	2.6	122.7	128.3	119.6
August	40.5	33.5	27.7	*7.0	12.4	1.4	2.0	3.1	127.6	123.9	129.3
November	45.3	34.1	28.7	7.5	13.1	2.1	2.8	3.5	137.1	137.3	138.1
2005											
February	48.2	33.0	35.4	8.8	15.3	2.6	2.3	4.0	149.5	147.4	142.3
May	41.2	31.6	34.9	7.4	14.5	1.9	2.3	4.0	137.8	143.3	143.5
August	39.1	32.8	33.4	8.8	16.9	2.2	2.7	4.4	140.3	137.7	140.9
CHANGE FROM PREVIOUS QUARTER (%)											
2004											
May	17.1	5.8	36.7	9.6	2.9	24.5	38.8	15.9	16.1	22.9	7.6
August	-7.3	9.4	10.4	15.0	17.5	-17.3	-18.7	23.0	4.0	-3.4	8.1
November	12.0	1.7	3.7	7.2	5.9	46.4	39.5	12.7	7.4	10.8	6.8
2005											
February	6.2	-3.1	23.1	17.4	16.5	26.9	-18.3	13.4	9.1	7.4	3.0
May	-14.5	-4.4	-1.3	-15.6	-4.9	-29.6	3.5	-1.2	-7.8	-2.8	0.8
August	-5.1	3.9	-4.4	18.4	16.5	20.1	16.4	10.7	1.8	-3.9	-1.8
CHANGE FROM CORRESPONDING QUARTER OF PREVIOUS YEAR (%)											
2003											
August	4.0	-1.8	9.0	-17.8	-9.8	-14.3	-17.9	-25.1	-0.7	1.1	4.6
2004											
August	12.1	14.6	15.2	8.6	67.4	-25.3	57.1	29.7	17.3	19.1	23.9
2005											
August	-3.5	-2.1	20.5	25.9	36.6	57.1	37.3	39.7	9.9	11.1	9.0

* estimate has a relative standard error of 25% to 50% and should be used with caution

2. JOB VACANCIES, Private sector - States and territories

	NSW	Vic.	Qld	SA	Original WA	Tas.	NT	ACT	Australia	Seasonally Adjusted Australia	Trend Australia
VACANCIES ('000)											

2004

May	39.8	27.7	22.8	5.4	*9.5	1.3	*1.6	1.5	109.5	114.9	106.4
August	36.9	30.2	25.1	*6.0	11.4	1.1	1.2	*1.6	113.5	109.9	115.1
November	42.0	30.8	26.2	6.1	11.4	1.7	1.8	1.7	121.6	121.9	123.0
2005											
February	44.6	29.3	32.8	8.0	14.0	2.1	1.2	2.1	134.2	132.0	127.0
May	37.8	28.4	32.2	6.7	13.2	*1.1	1.2	2.0	122.7	128.1	128.0
August	35.8	29.3	30.5	7.7	15.7	1.7	1.8	*2.2	124.6	122.1	125.4

CHANGE FROM PREVIOUS QUARTER (%)

2004											
May	17.6	5.0	41.7	10.5	1.6	8.8	46.7	55.9	16.8	24.3	8.1
August	-7.2	9.1	10.1	11.0	19.8	-15.8	-22.6	6.8	3.6	-4.4	8.2
November	13.7	1.8	4.3	1.5	0.3	57.2	47.3	6.7	7.1	11.0	6.9
2005											
February	6.3	-4.6	25.5	31.3	22.8	22.1	-33.1	25.7	10.4	8.2	3.3
May	-15.3	-3.1	-1.9	-16.4	-5.7	-44.7	0.6	-6.1	-8.6	-3.0	0.7
August	-5.3	2.9	-5.3	15.8	18.3	47.3	49.1	9.9	1.6	-4.7	-2.0

CHANGE FROM CORRESPONDING QUARTER OF PREVIOUS YEAR (%)

2003											
August	7.9	0.0	10.6	-19.1	-8.8	-12.4	-45.8	-54.2	1.0	3.1	7.1
2004											
August	15.5	14.0	14.5	6.0	84.9	-34.4	178.5	94.1	19.3	21.5	27.1
2005											
August	-3.1	-3.1	21.5	29.1	37.4	56.2	48.0	38.4	9.8	11.1	8.9

* estimate has a relative standard error of 25% to 50% and should be used with caution

3. JOB VACANCIES, Public sector - States and territories

	Original								Seasonally Adjusted	Trend
	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Australia	Australia

VACANCIES ('000)

2004										
May	3.9	3.0	2.3	0.6	1.0	0.4	0.8	1.1	13.2	13.4
August	3.6	3.3	2.6	1.0	1.0	0.3	0.7	1.6	14.1	14.0
November	3.3	3.3	2.6	1.4	1.7	0.4	0.9	1.9	15.5	15.4
2005										
February	3.5	3.7	2.6	0.8	1.2	0.6	1.0	1.9	15.3	15.4
May	3.4	3.2	2.7	0.7	1.3	0.7	1.1	2.0	15.1	15.2
August	3.3	3.5	2.9	1.0	1.3	0.6	0.9	2.2	15.7	15.6

CHANGE FROM PREVIOUS QUARTER (%)

2004										
May	12.5	13.4	1.8	2.6	16.5	113.1	25.7	-14.2	10.1	11.3
August	-7.8	11.4	12.9	48.3	-3.6	-21.6	-11.2	45.0	6.9	5.2
November	-5.8	0.2	-1.9	43.0	70.4	13.0	26.3	18.7	9.9	9.8
2005										
February	5.6	11.0	-0.7	-44.4	-26.5	47.5	10.5	2.2	-1.2	-0.5
May	-3.4	-14.6	6.6	-6.8	4.1	24.2	6.9	4.3	-1.3	-0.7
August	-3.6	12.0	6.6	42.9	-2.0	-22.8	-20.0	11.4	3.7	2.7

CHANGE FROM CORRESPONDING QUARTER OF PREVIOUS YEAR (%)

2003										
August	-18.8	-15.7	-5.3	-6.5	-14.6	-24.6	14.4	10.1	-11.0	-10.4

2004												
August	-13.9	20.5	22.8	28.4	-20.1	30.2	-9.2	-2.7	3.0	3.3	2.6	
2005												
August	-7.4	6.3	10.8	5.9	27.7	59.7	19.3	41.0	11.0	11.4	9.4	

4. JOB VACANCIES, Industry: Original

	2004		2005			
	May '000	August '000	November '000	February '000	May '000	August '000
Mining	2.0	1.6	2.6	2.8	2.7	4.1
Manufacturing	16.1	14.9	13.5	11.5	14.0	15.6
Electricity, gas and water supply	0.4	0.6	0.7	0.7	1.0	0.9
Construction	*7.1	10.0	*7.3	9.7	*9.7	6.4
Wholesale trade	7.3	8.5	9.1	9.9	*6.6	*6.3
Retail trade	21.8	18.9	21.2	24.3	21.1	25.9
Accommodation, cafes and restaurants	*3.8	*4.5	8.8	8.6	6.3	*7.4
Transport and storage	*3.0	*3.3	3.9	4.5	*4.5	3.9
Communication services	0.7	0.7	0.7	*1.1	0.6	0.4
Finance and insurance	4.7	5.5	5.9	6.1	7.4	*8.0
Property and business services	27.7	30.6	31.2	35.4	31.9	28.5
Government administration and defence	4.9	5.2	6.8	7.1	6.3	7.6
Education	4.5	4.7	4.5	5.4	4.1	3.9
Health and community services	12.1	11.4	14.0	12.0	14.0	12.7
Cultural and recreational services	*2.0	*2.1	2.5	*3.6	3.7	3.0
Personal and other services	*4.6	*5.2	*4.6	*6.9	*4.0	*5.6
All industries	122.7	127.6	137.1	149.5	137.8	140.3

* estimate has a relative standard error of 25% to 50% and should be used with caution

About this Release

ABOUT THIS RELEASE

This information paper provides an outline of the changes to be made to the Job Vacancies, Australia (cat. no. 6354.0) Time Series Spreadsheets.

Explanatory Notes

Explanatory Notes

INTRODUCTION

1 This publication contains quarterly estimates of job vacancies based on information obtained from a sample survey of employers.

CONCEPTS, SOURCES AND METHODS

2 Descriptions of the underlying concepts of Australia's job vacancies statistics, and the sources and methods used in compiling these estimates, are presented in **Labour Statistics: Concepts, Sources and Methods** (cat. no. 6102.0.55.001) which is available on the ABS web site.

SCOPE AND COVERAGE

3 All job vacancies (as defined in the Glossary) for wage and salary earners are represented in the Job Vacancies Survey (JVS), except those:

- in the Australian permanent defence forces
- in businesses primarily engaged in agriculture, forestry and fishing
- in private households employing staff
- in overseas embassies, consulates, etc.
- located outside Australia.

4 The sample for the Job Vacancies Survey, like most Australian Bureau of Statistics (ABS) business surveys, is selected from the ABS Business Register which is primarily based on registrations to the Australian Taxation Office's (ATO) Pay As You Go Withholding (PAYGW) scheme (and prior to 1 June 2000 the Group Employer (GE) scheme). The population is updated quarterly to take account of:

- new businesses
- businesses which have ceased employing
- changes in employment levels
- changes in industry
- other general business changes.

5 The estimates include an allowance for the time it takes newly registered businesses to get on to the survey population.

6 Businesses which have ceased employing are identified when the ATO cancels their PAYGW registration. In addition, businesses which did not remit under the PAYGW scheme for the previous five quarters are removed from the frame.

SURVEY DESIGN

7 A sample of approximately 4,800 employers is selected from the ABS Business Register to ensure adequate state and industry representation. The sample is updated each quarter to reflect changes in the ABS Business Register. These changes arise from the emergence of new businesses, takeovers and mergers, changes to industry classification, changes in the number of employees, and businesses which have ceased operations. Such updating of the register can contribute to changes in the estimates of job vacancies.

8 The statistical unit for the survey comprises all the activities of an employer in a particular

state or territory based on the Australian Business Number (ABN) unit or Type of Activity Unit (TAU) (see paragraphs 11 and 15 of the Explanatory Notes). Each statistical unit is classified to an industry which reflects the predominant activity of the business. The statistical units are stratified by state, sector, industry division and employment size, and within each stratum, statistical units are selected with equal probability.

STATISTICAL UNITS DEFINED ON THE ABS BUSINESS REGISTER

9 The ABS uses an economic statistics units model on the ABS Business Register to describe the characteristics of businesses, and the structural relationships between related businesses. The units model is also used to break groups of related businesses into relatively homogeneous components that can provide data to the ABS.

10 In mid-2002, to better use the information available as a result of The New Tax System, the ABS changed its economic statistics units model. The new units model allocates businesses to one of two sub-populations. The vast majority of businesses are in what is called the ATO Maintained Population, while the remaining businesses are in the ABS Maintained Population. Together, these two sub-populations make up the ABS Business Register population.

ATO maintained population

11 Most businesses and organisations in Australia need to obtain an Australian Business Number, and are then included on the ATO Australian Business Register. Most of these businesses have simple structures; therefore the unit registered for an ABN will satisfy ABS statistical requirements. For these businesses, the ABS has aligned its statistical units structure with the ABN unit. The businesses with simple structures constitute the ATO Maintained Population, and the ABN unit will be used as the economic statistics unit for all economic collections.

ABS maintained population

12 For the population of businesses where the ABN unit is not suitable for ABS statistical requirements, the ABS maintains its own units structure through direct contact with the business. These businesses constitute the ABS Maintained Population. This population consists typically of large, complex and diverse businesses. The new statistical units model described below has been introduced to cover such businesses.

13 Enterprise Group: This is a unit covering all the operations in Australia of one or more legal entities under common ownership and/or control. It covers all the operations in Australia of legal entities which are related in terms of the current Corporations Law (as amended by the Corporations Legislation Amendment Act 1991), including legal entities such as companies, trusts, and partnerships. Majority ownership is not required for control to be exercised.

14 Enterprise: The enterprise is an institutional unit comprising (i) a single legal entity or business entity, or (ii) more than one legal entity or business entity within the same Enterprise Group and in the same institutional subsector (i.e. they are all classified to a

single Standard Institutional Sector Classification of Australia subsector).

15 Type of Activity Unit: The TAU comprises one or more business entities, sub-entities or branches of a business entity within an Enterprise Group that can report production and employment data for similar economic activities. When a minimum set of data items is available, a TAU is created which covers all the operations within an industry subdivision (and the TAU is classified to the relevant subdivision of the Australian and New Zealand Standard Industrial Classification [ANZSIC]). Where a business cannot supply adequate data for each industry, a TAU is formed which contains activity in more than one industry subdivision.

16 For more information on the impacts of the introduction of the new economic statistics units model, refer to **Information Paper: Improvements in ABS Economic Statistics [Arising from The New Tax System]** (cat. no. 1372.0).

COMPARABILITY OF SERIES

17 Job vacancies series in this publication were introduced with the November 1983 issue of the Job Vacancies and Overtime survey publication. Estimates contained in this publication are not strictly comparable with those obtained prior to November 1983.

18 Between August and November 1999 a number of improvements were made to operational procedures, in conjunction with the discontinuation of the overtime component of the survey. These improvements resulted in an increase in job vacancy estimates for the private sector. There was negligible change to public sector estimates. Consequently, private sector estimates prior to November 1999 were adjusted to provide a comparable and compatible time series.

19 To account for the New Tax System changes described in paragraphs 9 to 16, the historical series from May 2002 back to November 1983 have been revised to make the time series of estimates as continuous as possible.

20 From November 2003, number of employees is no longer collected in the Job Vacancies Survey. Consequently job vacancy rates (see Glossary) are no longer presented in this publication. Job vacancy rates can be derived based on estimates of the number of employees from the Labour Force Survey.

EFFECTS OF ROUNDING

21 Where figures have been rounded, discrepancies may occur between sums of the component items and totals. Percentages in this publication are calculated using unrounded numbers and consequently could differ from percentages that are calculated from the published rounded statistics.

SEASONAL ADJUSTMENT

22 Seasonal adjustment is a means of removing the estimated effects of normal seasonal variation from the series so that the effects of other influences can be more clearly recognised. Seasonal adjustment does not aim to remove the irregular or non-seasonal influences which may be present in any particular series. Influences that are volatile or unsystematic can still make it difficult to interpret the movement of the series even after adjustment for seasonal variation. This means that quarter-to-quarter movements of seasonally adjusted estimates may not be reliable indicators of trend behaviour.

23 The quarterly series have been seasonally adjusted from February quarter 1984 and the historical series can be made available on request. The seasonal factors are reviewed annually to take account of each additional year's original data. The most recent review, using original estimates to August 2005, took place in time for inclusion in the August 2005 estimates.

24 Details about the method of seasonal adjustment are available on request.

TREND ESTIMATES

25 Seasonally adjusted estimates can be smoothed to reduce the impact of irregular or non-seasonal influences. Smoothed seasonally adjusted series are called trend estimates.

26 The ABS considers that trend estimates provide a more reliable guide to the underlying direction of the data, and are more suitable than either the seasonally adjusted or original estimates for most business decisions and policy advice.

27 Trend estimates, obtained by dampening out the irregular component from the seasonally adjusted series, are calculated using a centred 7-term Henderson moving average of the seasonally adjusted series. Estimates for the three most recent quarters cannot be calculated using this centred average method; instead an asymmetric average is used. This can lead to revisions in the trend estimates for the last three quarters when data become available for later quarters. Revisions of trend estimates will also occur with revisions to the original data and re-estimation of seasonal adjustment factors.

28 If a series is highly volatile then the trend estimates will be subject to greater revision for the latest few quarters as new data become available. However, it is important to note that this does not make the trend series inferior to the seasonally adjusted or original series.

29 For more information, refer to **Information Paper: A Guide to Interpreting Time Series - Monitoring Trends** (cat. no. 1349.0), available free of charge from the ABS web site.

30 Two feature articles which have appeared in the ABS monthly publication **Australian Economic Indicators** (cat. no. 1350.0) may also be of interest:

- Picking Turning Points in the Economy (April 1991)
- Smarter Data Use (March 1992).

RELATED PUBLICATIONS

31 Users may also wish to refer to the following publications which are available from ABS Bookshops:

- **Australian Labour Market Statistics** (cat. no. 6105.0) - issued quarterly
- **Average Weekly Earnings, Australia** (cat. no. 6302.0) - issued quarterly
- **Employee Earnings and Hours, Australia** (cat. no. 6306.0) - issued biennially
- **Information Paper: Improvements in ABS Economic Statistics [Arising from The New Tax System]** (cat. no. 1372.0) - issued 6 May 2002
- **Information Paper: Job Vacancies, Australia, Changes to Time Series Spreadsheets** (cat. no. 6364.0) - issued 30 June 2005
- **Labour Force, Australia** (cat. no. 6202.0) - issued monthly
- **Labour Statistics: Concepts, Sources and Methods** (cat. no. 6102.0.55.001)
- **Wage and Salary Earners, Public Sector, Australia** (cat. no. 6248.0.55.001) - issued quarterly.

32 Current publications and other products released by the ABS are listed in the **Catalogue of Publications and Products** (cat. no. 1101.0). The Catalogue is available from any ABS office or the ABS web site. The ABS also issues a daily Release Advice on the web site which details products to be released in the week ahead.

Glossary

Industry

Industry is classified according to the **Australian and New Zealand Standard Industrial Classification (ANZSIC), 1993** (cat. no. 1292.0).

Job vacancy

A job vacancy is a job available for immediate filling on the survey reference date and for which recruitment action had been taken. Recruitment action includes efforts to fill vacancies by advertising, by factory notices, by notifying public or private employment agencies or trade unions and by contacting, interviewing or selecting applicants already registered with the enterprise or organisation. Excluded are vacancies:

- for jobs which became vacant on the survey date and were filled that same day
- for jobs of less than one day's duration
- to be filled by persons already hired, or by promotion or transfer of existing employees
- to be filled by employees returning from paid or unpaid leave or after industrial dispute(s)
- not available for immediate filling on the survey reference date
- not available within the particular state or territory to which the return relates
- for work to be carried out by contractors
- for which no recruitment action has been taken

- where a person has been appointed but has not yet commenced duty
- to be filled by staff from contract labour agencies
- for jobs available only to persons already employed by the enterprise or organisation.

Job vacancy rate

The job vacancy rate is calculated by expressing the number of job vacancies as a percentage of the number of employee jobs plus the number of job vacancies.

Reference date

The reference date for the survey is the third Friday of the middle month of the quarter.

Sector

Public sector includes all local government authorities and government departments, agencies and authorities created by, or reporting to the Commonwealth Parliament and state/territory parliaments. All remaining employees are classified as private sector.

Abbreviations

The following abbreviations have been used in this publication

ABN	Australian Business Number
ABS	Australian Bureau of Statistics
ANZSIC	Australian and New Zealand Standard Industrial Classification
ATO	Australian Taxation Office
GE	group employer
JVS	Job Vacancies Survey
PAYGW	pay-as-you-go withholding
TAU	type of activity unit

Technical Note

TECHNICAL NOTE DATA QUALITY

RELIABILITY OF ESTIMATES

1 As the estimates in this publication are based on information relating to a sample of employers rather than a full enumeration, they are subject to sampling variability. That is, they may differ from the estimates that would have been produced if the information had been obtained from all employers. This difference, called **sampling error**, should not be confused with inaccuracy that may occur because of imperfections in reporting by

respondents or in processing by the ABS. Such inaccuracy is referred to as non-sampling error and may occur in any enumeration whether it be a full count or sample. Efforts have been made to reduce non-sampling error by careful design of questionnaires, detailed checking of returns and quality control of processing.

2 The sampling error associated with any estimate can be estimated from the sample results. One measure of sampling error is given by the **standard error** which indicates the degree to which an estimate may vary from the value which would have been obtained from a full enumeration (the 'true value'). There are about two chances in three that a sample estimate differs from the true value by less than one standard error, and about 19 chances in 20 that the difference will be less than two standard errors.

3 An example of the use of a standard error on levels is as follows. If the estimated number of job vacancies was 25,000 with a standard error of 2,500, then there would be about two chances in three that a full enumeration would have given an estimate in the range 22,500 to 27,500 and about 19 chances in 20 that it would be in the range 20,000 to 30,000.

4 An example of the use of a standard error for a quarterly change estimate is as follows. If the estimated standard error for a quarterly change estimate of job vacancies was 1,000 and the quarterly change estimate between two quarters was 4,500, then there would be about two chances in three that a full enumeration would have given a quarterly change estimate in the range +3,500 to +5,500 and about 19 chances in 20 that it would be in the range +2,500 to +6,500.

5 Quarterly movements in estimates of job vacancies are considered to be statistically significant where they exceed two standard errors.

6 Another measure of the sampling error (for level estimates only) is the **relative standard error**, which is obtained by expressing the standard error as a percentage of the estimate to which it refers. Level estimates with a relative standard error between 25% and 50%, denoted by an asterisk in this publication, are subject to sampling variability generally considered to be too high for most practical purposes and should be used with caution. Level estimates with a relative standard error of 50% or more, denoted by a double asterisk, are considered to be too unreliable for general use.

7 The following table shows the standard errors for quarterly level and movement for States and territories by sector, based on original data for the current quarter. The next table shows the standard errors for level estimates by industry.

STANDARD ERRORS, Job vacancies, Sector - States and territories - August 2005

	LEVEL			QUARTERLY MOVEMENT		
	Private '000	Public '000	Total '000	Private '000	Public '000	Total '000
New South Wales	3.9	0.3	3.9	5.0	0.3	5.0
Victoria	3.6	0.6	3.6	4.3	0.4	4.3
Queensland	4.2	0.2	4.2	5.5	0.3	5.5
South Australia	1.2	0.1	1.2	1.1	0.1	1.2
Western Australia	2.2	0.1	2.2	2.7	0.2	2.7
Tasmania	0.3	0.1	0.3	0.4	0.2	0.5

Northern Territory	0.4	-	0.4	0.5	-	0.5
Australian Capital Territory	0.5	0.5	0.7	0.6	0.4	0.7
Australia	7.2	0.9	7.2	9.1	0.7	9.1

- nil or rounded to zero (including null cells)

STANDARD ERRORS, Job vacancies - Industry

	2004			2005		
	May '000	August '000	November '000	February '000	May '000	August '000
Mining	0.2	0.2	0.3	0.4	0.2	0.5
Manufacturing	3.5	2.6	2.5	2.0	3.1	3.2
Electricity, gas and water supply	-	-	0.1	-	0.2	0.1
Construction	2.5	2.3	2.0	2.0	2.9	1.5
Wholesale trade	1.4	2.0	1.8	2.1	1.8	1.6
Retail trade	3.1	1.4	3.3	3.4	2.7	2.7
Accommodation, cafes and restaurants	1.1	1.3	1.7	1.9	1.4	1.9
Transport and storage	1.1	0.9	0.8	1.0	1.2	0.7
Communication services	-	-	-	0.3	-	-
Finance and insurance	0.9	0.9	1.3	1.1	1.6	2.1
Property and business services	4.5	4.8	3.9	4.4	4.4	3.6
Government administration and defence	0.5	0.6	0.7	0.8	0.6	0.7
Education	1.0	1.1	0.7	0.9	0.6	0.5
Health and community services	1.7	1.9	1.9	1.6	2.1	2.0
Cultural and recreational services	0.6	0.5	0.2	0.9	0.8	0.5
Personal and other services	1.8	2.0	1.3	2.0	1.3	1.9
All industries	7.8	7.3	7.2	7.6	7.9	7.2

- nil or rounded to zero (including null cells)

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